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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,328	07/23/2003	Sebastien Weitbruch	PD020074	7767

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EXAMINER

CASCHERA, ANTONIO A

ART UNIT	PAPER NUMBER
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2628

MAIL DATE	DELIVERY MODE
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08/14/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/625,328	Applicant(s) WEITBRUCH ET AL.	
	Examiner Antonio A. Caschera	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. Receipt is acknowledged of a request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e) and a submission, filed on 05/31/2007.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in the pending application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 7 recite the limitation "the grey scale portrayal" in line 4 of claim 1 and lines 3-4 of claim 7. There is insufficient antecedent basis for this limitation in the claim. Further note, claims 2-6 depend upon claim 1 and therefore also inherently suffer from such an issue.

Double Patenting

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The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 11/504,562. Although the conflicting claims are not identical, they are not patentably distinct from each other because the Applicant's claims have almost a one-to-one correspondence in wording to the above claims found in Application No. 11/504,562 except for the claims of the current application being directed towards a “method” while Application No. 11/504,562's claims are directed towards a “device” which is obvious based on there one-to-one correspondence.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

The following table describes the correlation between the current application and Application No. 11/504,562's claims:

Application Claim No.	1	2	3	5	6	7
Application No. 11/504,562 Claim No.	1	2	3	5	6	1 & 7

The table below shows the correspondence between claim 1 of Applicant's claims and claim 1 of Application No. 11/504,562:

<u>Applicant's Claim 1:</u>	<u>Application No. 11/504,562 Claim 1:</u>
A method for processing video data for display on a display device having a plurality of luminous elements comprising: (lines 1-2)	Device for processing video data for display on a display device having a plurality of luminous elements including dithering means for (lines 1-5)
applying a dithering function to at least part of said video data, wherein the dithering improves the grey scale portrayal of video pictures of said video data, (lines 3-5)	applying a dithering function to at least a part of said video data to refine the grey scale portrayal of video pictures of said video data, wherein, it comprises: (lines 5-9);
computing at least one motion vector from said video data, (line 6)	motion estimations means connected to said dithering means for computing at least one motion vector from said video data, (lines 10-12);

changing at least one of the phase, amplitude, spatial resolution and temporal resolution of said dithering function in accordance with said at least one motion vector when applying the dithering function to said video data; and (lines 7-9)	wherein the phase, amplitude, spatial resolution and/or temporal resolution of said dithering function is changeable in accordance with said at least one motion vector. (lines 12-15)
outputting the dithered video data to a display device. (line 10)	(see lines 1-5, shown above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the means recited in the “device” claims of Application No. 11/504,562 as the “method” steps of Applicant’s claims since both claims have an almost one-to-one correspondence in language that creates similar scopes for the claims, thus not making the two inventions patentably distinct and creating a double patenting issue. Further, beyond the difference in “class” of invention between the current application and Application No. 11/504,562, the body and claimed limitations are of almost identical scope except for the terminology of a “dithering function improves the grey scale portrayal” (see lines 3-4 of claim 1 of the current application) and a “dithering function...to refine the grey scale portrayal” (see lines 4-7 of claim 1 of Application no. 11/504,562). It would have been obvious to one of ordinary skill in the art at the time the invention was made to interpret the “improving” of Applicant’s claims functionally equivalent to the “refining” of Application No. 11/504,562 claims since one of ordinary skill in the art would equate such terms as equivalent or at least

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equivalent in scope especially in regards to the current applied context of improving the luminous portrayal in gray scale images.

In reference to Applicant's claim 2, the limitations of claim 2 can be found almost word-for-word in claim 2 of Application No. 11/504,562.

In reference to Applicant's claim 3, the limitations of claim 3 can be found almost word-for-word in claim 3 of Application No. 11/504,562.

In reference to Applicant's claim 4, the limitations of claim 4 can be found almost word-for-word in claim 4 of Application No. 11/504,562.

In reference to Applicant's claim 5, the limitations of claim 5 can be found almost word-for-word in claim 5 of Application No. 11/504,562.

In reference to Applicant's claim 6, the limitations of claim 6 can be found almost word-for-word in claim 6 of Application No. 11/504,562.

The table below shows the correspondence between claim 7 of Applicant's claims and the combination of claims 1 and 7 of Application No. 11/504,562: Note, claim 7 of Application No. 11/504,562 directly depends upon claim 1 therefore the Office believes such combination of claims and their limitations as valid.

<u>Applicant's Claim 7:</u>	<u>Application No. 11/504,562 Claims 1 & 7:</u>
A method for processing video data for display on a display device having a plurality of luminous elements comprising: (lines 1-2)	Device for processing video data for display on a display device having a plurality of luminous elements including dithering means for (lines 1-5)
applying a dithering function to at least part of	applying a dithering function to at least a part

said video data to refine the grey scale portrayal of video pictures of said video data, (lines 3-4)	of said video data to refine the grey scale portrayal of video pictures of said video data, wherein, it comprises: (lines 5-9);
computing at least one motion vector from said video data, (line 5)	motion estimations means connected to said dithering means for computing at least one motion vector from said video data, (lines 10-12);
changing at least one of the phase, amplitude, spatial resolution and temporal resolution of said dithering function in accordance with said at least one motion vector when applying the dithering function to said video data; and (lines 6-8)	wherein the phase, amplitude, spatial resolution and/or temporal resolution of said dithering function is changeable in accordance with said at least one motion vector. (lines 12-15)
outputting the dithered video data to a display device; (line 9)	
wherein said at least one motion vector has two spatial dimensions. (line 10)	Device according to claim 1, wherein said at least one motion vector includes two spatial dimensions. (lines 1-2 of claim 7)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the means recited in the “device” claims of Application No. 11/504,562

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as the “method” steps of Applicant’s claims since both claims have an almost one-to-one correspondence in language that creates similar scopes for the claims, thus not making the two inventions patentably distinct and creating a double patenting issue. Further, beyond the difference in “class” of invention between the current application and Application No. 11/504,562, the combination of claims 1 and 7 of Application No. 11/504,562 is seen as equivalent in scope to Applicant’s claim 7 especially since claim 7 of Application No. 11/504,562 directly depends upon claim 1, therefore the Office believes such combination of claims and their limitations as valid.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (U.S. Patent 6,421,466 B1) in view of Frey (U.S. Patent 5,925,875).

In reference to claim 7, Lin discloses a method for processing video data for display on a display device having a plurality of luminous elements (see column 1, lines 5-8, column 5, lines 61-64 wherein Lin discloses the display as having luminous elements and column 6, lines 26-31) comprising:

applying a dithering function to at least part of said video data to refine the grey scale portrayal of video pictures of said video data (see column 8, lines 18-23. Note, the Office

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interprets that the dithering of Lin inherently “refines” grey scale values of video data since the “Y” or luminous component of the pixel data is kept throughout the pixel manipulation processing (see column 8, lines 12-14). Further, such definition and interpretation of the term, “refine” can be found in the Final Office Action dated 03/14/07, in the *Response to Arguments* section)

computing at least one motion vector from said video data (see column 7, lines 1-17),
changing at least one of the phase, amplitude, spatial resolution and temporal resolution of said dithering function in accordance with said at least one motion vector when applying the dithering function to said video data; and

outputting the dithered video data *to a display device* (see column 4, lines 45-49 wherein Lin further discloses outputting the vector back into an encoded video stream as a substitute for that block of video data);

wherein said at least one motion vector has two spatial dimensions (Note, the Office interprets that the motion vector of Lin inherently comprises of data identifying the vector in two spatial dimensions since a vector traveling in a certain direction inherently comprises data describing a traveling direction in relation to an x axis along with data describing a traveling direction in relation to a y axis (see #18 of Figure 1 of Lin wherein the motion vector #18 would have a downward (y) data part and westward (x) data part)).

Although Lin does disclose calculating motion estimation vectors from the video data, Lin does not explicitly disclose changing at least one of the phase, amplitude, spatial resolution and temporal resolution of the dithering in accordance with the calculated motion vector. Frey discloses an apparatus and method using a dithering device to correct for differences in image

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detectors (see column 1, lines 13-16). Frey discloses the dithering device filtering an image performing scene-to-scene registration to measure the object space motion and to estimate a dither pattern from that motion (see column 10, lines 33-45 and Figure 12). Frey further discloses the scene-to-scene registration estimating the dither pattern by shifting a reference image signal relative to a previous image frame by a number of pixels (see column 10, lines 51-53). Note, the Office interprets such shifting of the reference image signal functionally equivalent to a change in spatial resolution of the dither pattern since the dither pattern of Frey is directly related to the correlation of the shifted image with previous image frame data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the dither pattern modification based upon motion estimation techniques of Frey with the dithering and motion vector calculation techniques of Lin in order to adjust the dithering process on a scene-by-scene basis thereby creating a more precise dithering mechanism in video systems (see column 3, lines 51-60 of Frey). Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the outputting of processed video stream data in the combination of Lin and Frey to a display device since video data is ultimately desired to be displayed in some way and at some point in its existence thereby serving its purpose of being shown.

Response to Arguments

6. Applicant's arguments, see page 1 of Applicant's Remarks, filed 05/31/07, with respect to the 35 USC 101 rejection of claims 1-7 have been fully considered and are persuasive. The 35 USC 101 rejection of claims 1-7 has been withdrawn. Further, amendments to the claims along

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with a clarification of interim guidelines for examination of patent applications for subject matter eligibility also aided in the withdrawal of the 35 USC 101 rejection.

7. Applicant's arguments, see pages 5-7 of Applicant's Remarks, filed 05/31/07, with respect to the 35 USC 103(a) rejection of claims 1-6 in view of Lin, Frey and Correa et al. have been fully considered and are persuasive. The 35 USC 103(a) rejection of claims 1-6 has been withdrawn. Note, a new interpretation of the above art is now applied to claim 7. Further, claims 1-6 do not have an applied prior art rejection however are rejected in view of the above 35 USC 112 and Double Patenting rejections.

References Cited

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- a. Moriyoshi (U.S. Patent 6,549,576)
 - Moriyoshi discloses a motion vector detecting method and apparatus for processing blocks of data with smaller residual differences.
- b. Ostromoukhov et al. (U.S. Patent 7,054,038)
 - Ostromoukhov et al. discloses a method and apparatus for the reproduction of color images by multi-color dithering.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (571) 272-7781.

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The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung, can be reached at (571) 272-7794.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

571-273-8300 (Central Fax)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (571) 272-2600.

aac

8/8/07